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COMPLIANCE SAMPLING INSPECTION

PVS CHEMICALS, INC.
(Cook County)

Chemical Manufacturing Facility
NPDES IL0002640

DATE:

August 13, 1985

INTERVIEWED:

John Hora, Technical Supervisor
Dale Smyser, Plant Manager

INSPECTED BY:

Donald J. Klopke, EPE, Maywood

On the above date a Compliance Sampling Inspection was conducted on the subject facility. Form 3560-3 is attached for reference.

Facility Description

PVS Chemicals, Inc.'s Calumet Plant is a chemical manufacturing facility which primarily produces sulphuric acid (160,000 tons per year), ammonium thiosulfate (10,000 tons/per year) and aluminum chloride (1500 tons/per year). Sulphuric acid is predominantly produced via the Contact Process (see attached flow diagram) utilizing dilute solutions of Oleum. Ammonium thio-sulfate and aluminum chloride are batch produced as shown in the attached process flow diagrams. During the production of these chemicals, large quantities of heat are generated necessitating the use of Calumet River water for cooling. Water is pumped through these processes in once-through, non-contact streams eventually being discharged back to the Calumet River via outfalls 001 and 002 (see attached schematic of waterflow).

Form 3560-3:

Pursuant to the April 3, 1979 Agency memo whose subject refers to Laboratory Techniques Used, the following questions are temporarily omitted on the attached Form 3560-3:

Section K:

- Part 2, the main question for the Section
- Part 2, ii, iv
- Part 3, the main question for the Section
- Part 3, (a), (b), (d), (e)

Additionally, Section G (a) iv, and (e) are temporarily omitted by Agency directive.

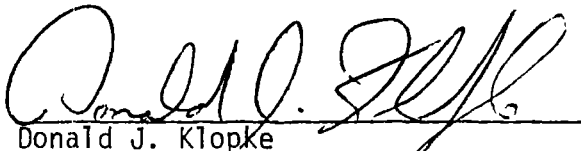
Accordingly, Section C of this Form reflects an evaluation based upon known information.

Section C Areas Evaluated During Inspection

Previous Compliance Sampling Inspection performed on January 17, 1980 found a pH excursion problem at the facility. The Calumet Works pinpointed leaks from their cascade-type coolers as the source of their pH violations. As a result, the facility replaced the aforementioned coolers with custom built, stainless steel, shell and tube heat exchangers. Please note that in a review of facility's last 12 submitted Discharge Monitoring Reports only one pH excursion was noted.

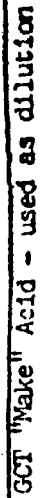
Summary of Findings

Based on available information it appears that the subject facility is in substantial compliance with the terms and conditions of its NPDES permit. Additionally, satisfactory ratings were assigned in all applicable areas in Section C of Form 3560-3. Please be advised that although all NPDES permit requirements appear to have been satisfied, storm runoff (non-point source) from the facility may be a potential problem and should be investigated during a future wet weather event.

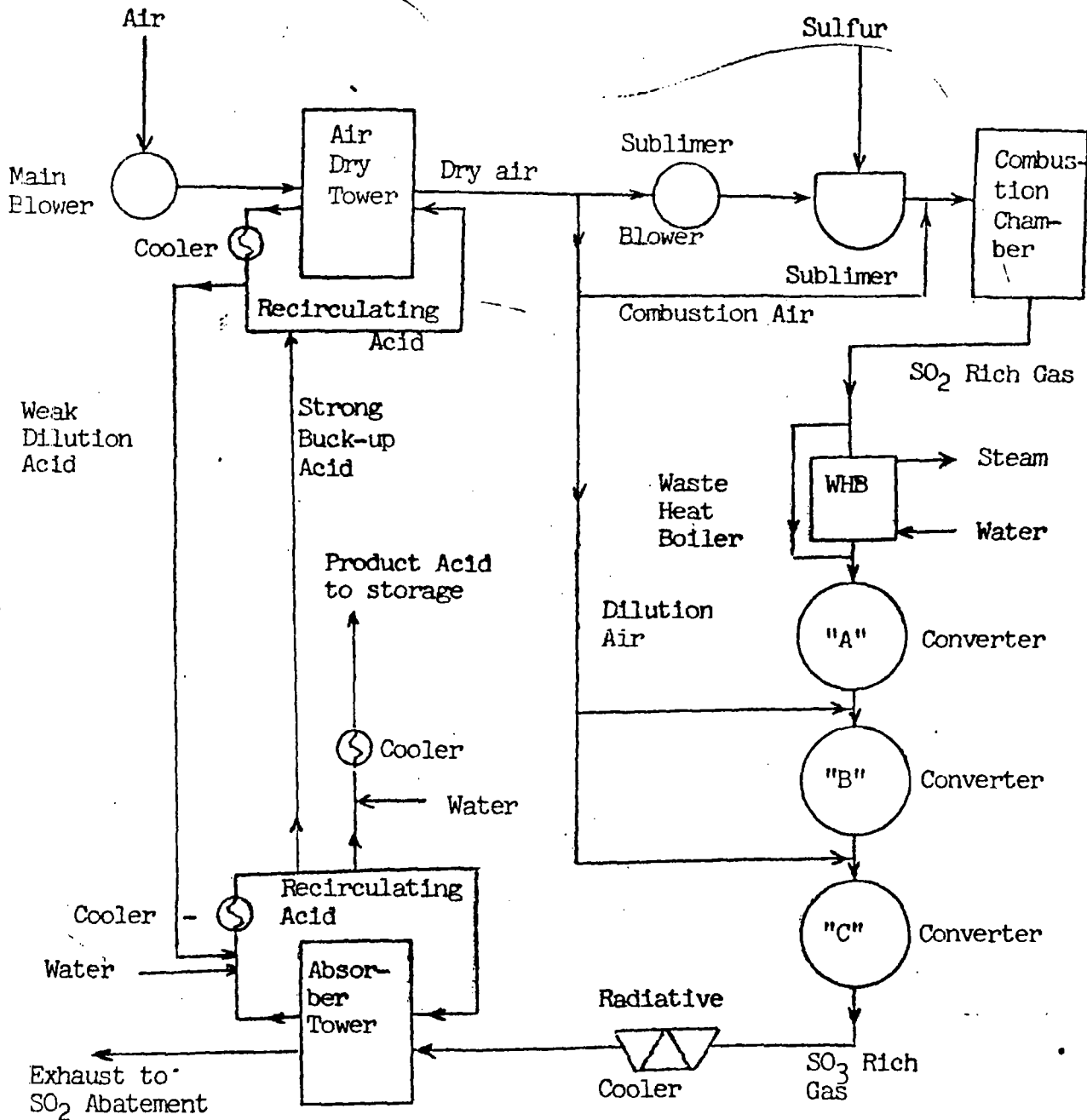


Donald J. Klopke
Environmental Protection Engineer
Maywood

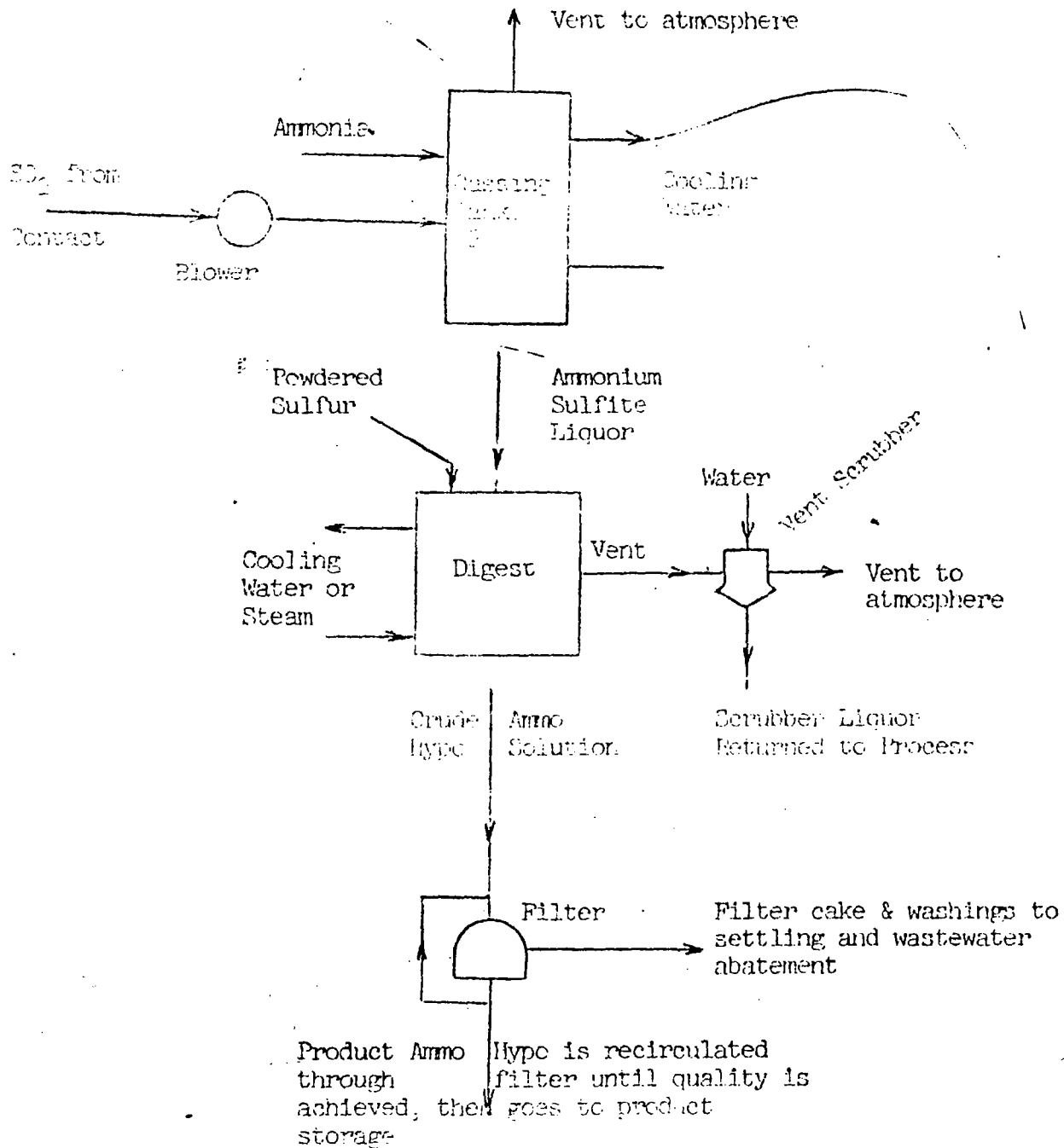
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#7 UNIT SULFURIC ACID
PROCESS FLOW DIAGRAM

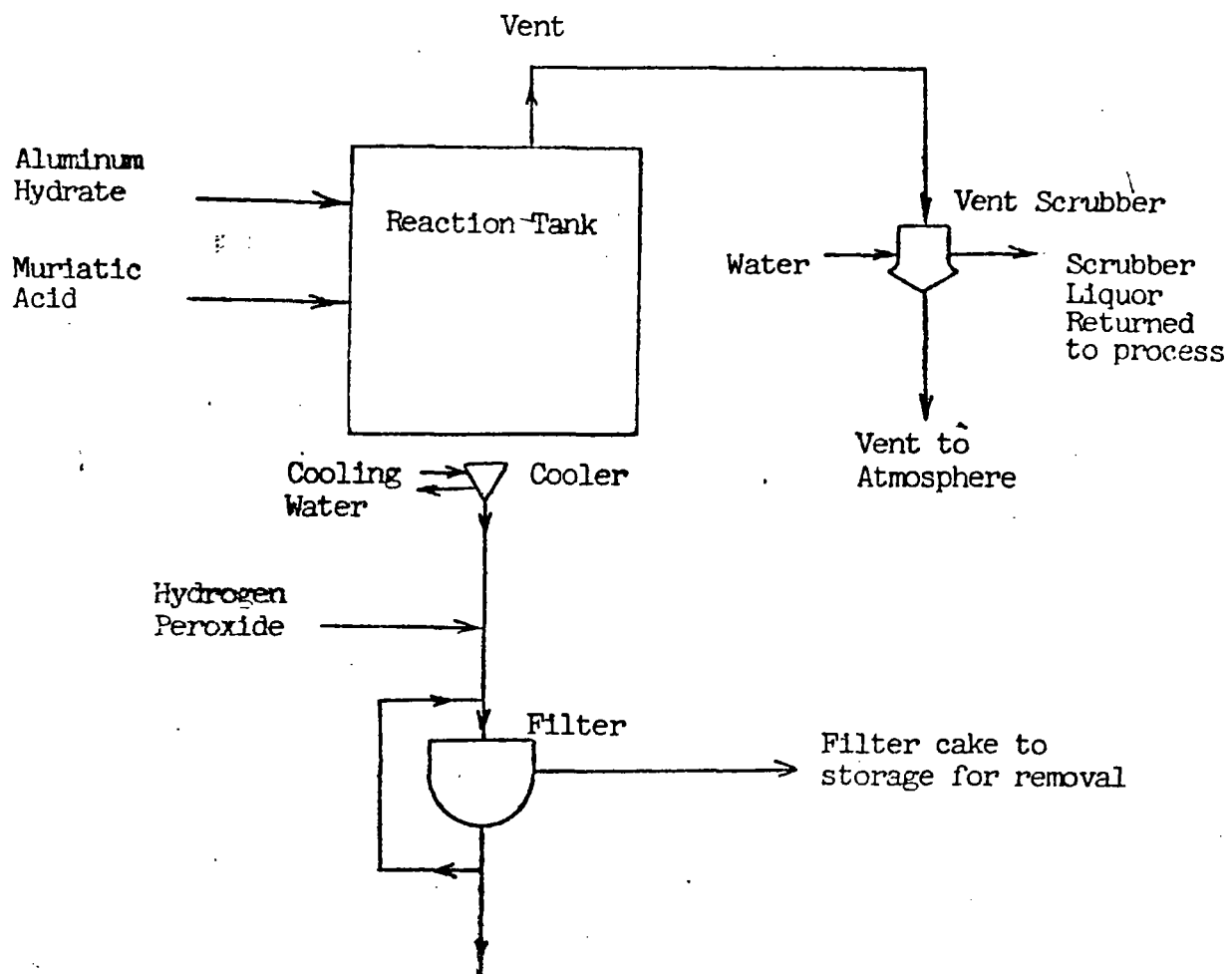


AMMONIUM THIOSULFATE
(AMMO HYPO)
PROCESS FLOW DIAGRAM



Note: Ammo Hypo is a batch process, as indicated by the broken flow lines.

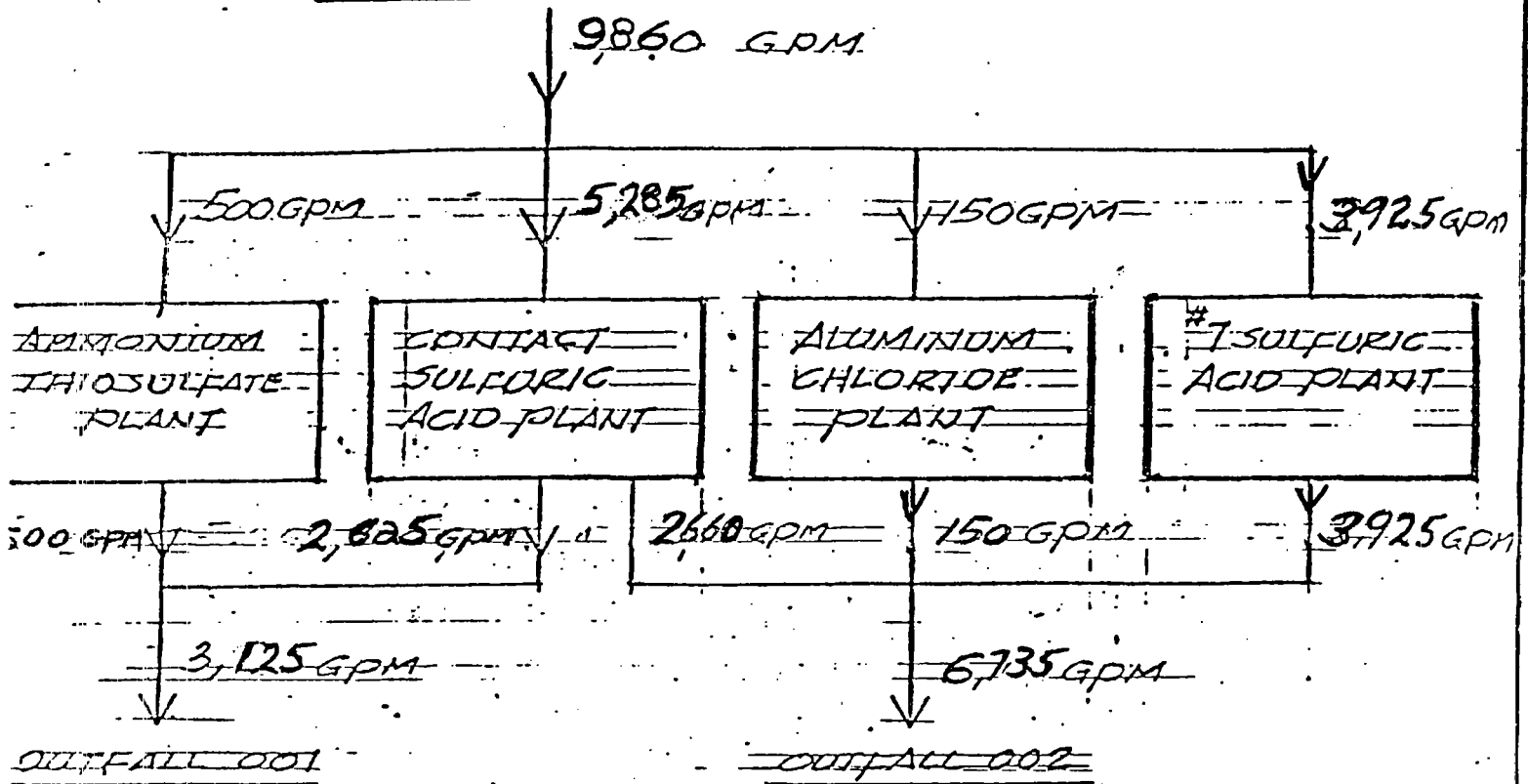
ALUMINUM CHLORIDE
PROCESS FLOW DIAGRAM



Aluminum Chloride Solution
recirculated through filter
until quality attained, then
to product storage

Note: Aluminum Chloride is a batch process,
as indicated by the broken flow line.

CALUMET RIVER



SCHEMATIC OF WATERFLOW

PO. City of Chicago
Hegewisch
S. County St.
Tulley Park